

### DESCRIPTION AND RATING

The 6DT8 is a miniature, high-mu, twin triode designed for use as a radio-frequency amplifier or as a combined oscillator and mixer in FM receivers. The incorporation of an internal shield contributes to the stable performance of this tube as a high-frequency amplifier.

Except for heater ratings, the 12DT8 is identical to the 6DT8.

#### GENERAL

##### ELECTRICAL

	6DT8	12DT8
Cathode—Coated Unipotential		
Heater Voltage, AC or DC	6.3	12.6 Volts
Heater Current	0.3	0.15 Amperes
Direct Interelectrode Capacitances, approximate*		
	Section 1	Section 2
Grid to Plate	1.6	1.6 $\mu\text{mf}$
Input	2.7	2.7 $\mu\text{mf}$
Output	1.6	1.6 $\mu\text{mf}$
Heater to Cathode	3.0	3.0 $\mu\text{mf}$
Grounded-Grid Input†		5.3 $\mu\text{mf}$
Grounded-Grid Output†		2.8 $\mu\text{mf}$

##### MECHANICAL

Mounting Position—Any  
Envelope—T-6½, Glass  
Base—E9-1, Small Button 9-Pin

#### MAXIMUM RATINGS

##### DESIGN-CENTER VALUES, EACH SECTION

Plate Voltage	300	Volts
Negative DC Grid Voltage	50	Volts
Plate Dissipation	2.5	Watts
Heater-Cathode Voltage		
Heater Positive with Respect to Cathode		
DC Component	100	Volts
Total DC and Peak	200	Volts
Heater Negative with Respect to Cathode		
Total DC and Peak	200	Volts
Grid Circuit Resistance		
With Fixed Bias	0.25	Megohms
With Cathode Bias	1.0	Megohms

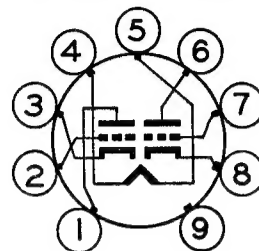
Design-Center ratings are limiting values of operating and environmental conditions applicable to a bogey tube of a specified type as defined by its published data, and should not be exceeded under normal conditions.

The tube manufacturer chooses these values to provide acceptable serviceability of the tube in average applications, taking responsibility for normal changes in operating conditions due to rated supply voltage variation (for an alternating-current power source, 117 volts plus or minus 10 percent is accepted USA practice), equipment component variation, equipment control adjustment, load variation, signal variation, environmental conditions, and variations in tube characteristics.

The equipment manufacturer should design so that initially no design-center value for the intended service is exceeded with a bogey tube in equipment operating at the stated normal supply voltage.

The tubes and arrangements disclosed herein may be covered by patents of General Electric Company or others. Neither the disclosure of any information herein nor the sale of tubes by General Electric Company conveys any license under patent claims covering combinations of tubes with other devices or elements. In the absence of an express written agreement to the contrary, General Electric Company assumes no liability for patent infringement arising out of any use of the tubes with other devices or elements by any purchaser of tubes or others.

#### BASING DIAGRAM

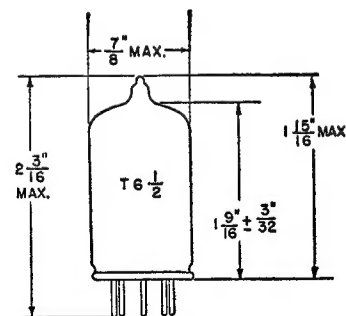


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#### TERMINAL CONNECTIONS

- Pin 1—Plate (Section 2)
- Pin 2—Grid (Section 2)
- Pin 3—Cathode (Section 2)
- Pin 4—Heater
- Pin 5—Heater
- Pin 6—Plate (Section 1)
- Pin 7—Grid (Section 1)
- Pin 8—Cathode (Section 1)
- Pin 9—Internal Shield

#### PHYSICAL DIMENSIONS



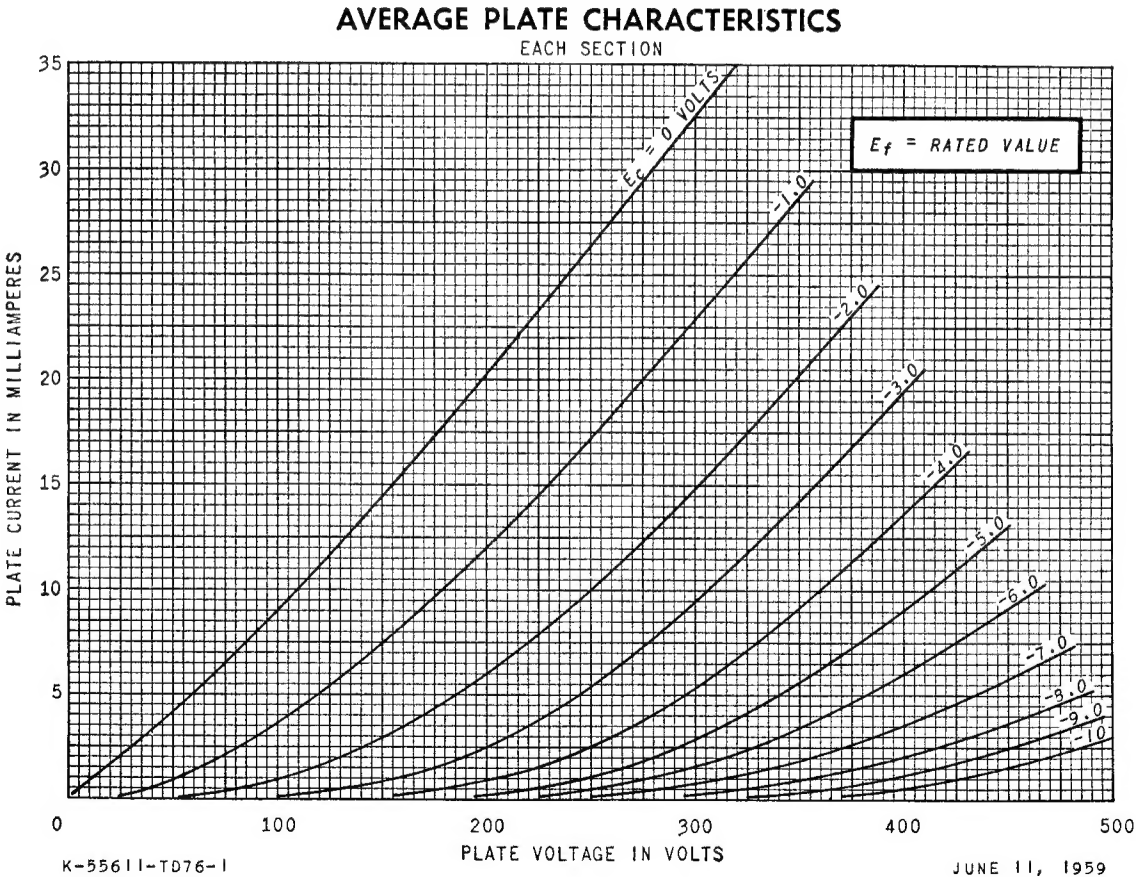
EIA 6-2

CHARACTERISTICS AND TYPICAL OPERATION

CLASS A<sub>1</sub> AMPLIFIER, EACH SECTION

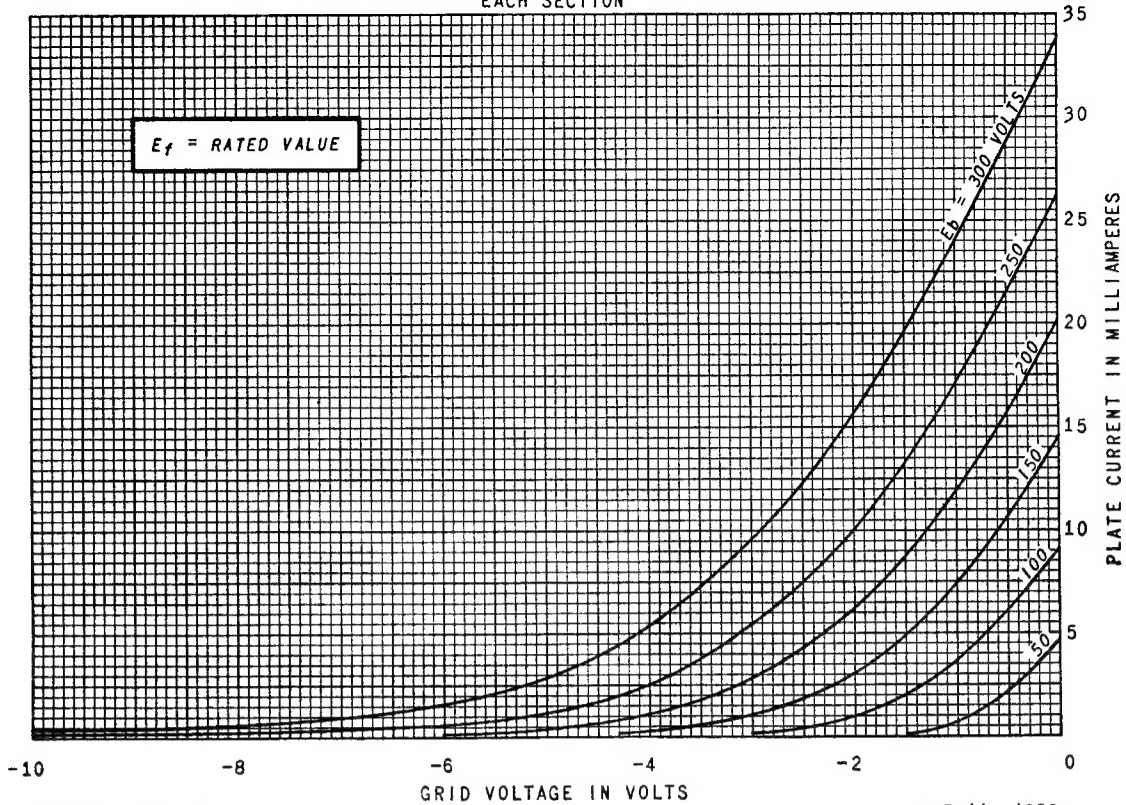
Plate Voltage.....	100	250	Volts
Cathode-Bias Resistor.....	270	200	Ohms
Amplification Factor.....	60	60	
Plate Resistance, approximate.....	15000	10900	Ohms
Transconductance.....	4000	5500	Micromhos
Plate Current.....	3.7	10	Milliamperes
Grid Voltage, approximate			
I <sub>b</sub> = 10 Microamperes.....	-5	-12	Volts

\* With external shield (EIA 315) connected to cathode of section under test unless otherwise indicated.  
 † With external shield (EIA 315) connected to grid.



# AVERAGE TRANSFER CHARACTERISTICS

EACH SECTION



# AVERAGE CHARACTERISTICS

EACH SECTION

